

WHAT IS CLAIMED IS:

1. A face image processing apparatus, comprising:

a face region detecting unit configured to detect a face feature point of a person from a plurality of images picked up by a plurality of imaging units respectively, to detect a face region;

a face feature extracting unit configured to extract a face feature from an image of the face region detected by the face region detecting unit;

a person recognizing unit configured to calculate a similarity measure based on a face feature of a specific person being previously registered and the face feature extracted by the face feature extracting unit to recognize the person; and an output apparatus which outputs a recognition result in the person recognizing unit.

2. The face image processing apparatus as claimed in claim 1,

wherein the face region detecting unit includes a plurality of face region detecting sections each configured to detect the face feature point of the person from the image picked up by one of the plurality of imaging units to detect the face region; and

the face feature detecting unit includes a plurality of face feature extracting sections each configured to extract

the face feature from the image of the face region detected by one of the plurality of face detecting sections.

3. The face image processing apparatus as claimed in claim 2, further comprising:

a photograph judging unit configured to compare a face feature extracted by one of the plurality of face feature extracting sections with a face feature extracted by the other of the plurality of face feature extracting sections to judge whether a photographic subject imaged by the plurality of imaging units is a photograph.

4. A face image processing apparatus comprising:

a face feature point detecting unit configured to detect a plurality of face feature points respectively from a plurality of images each picked up by one of a plurality of imaging units;

a face feature point predicting unit configured to predict a position of one of the face feature points with regard to the other of the face feature points in accordance with a spatial corresponding relationship of the plurality of images;

a face region cutting unit configured to cut out a plurality of face regions respectively from the plurality of images according to a plurality of face feature points corrected on the basis of results from the face feature point detecting unit and the face feature point predicting unit;

a face feature extracting unit configured to extract a face feature from images of the plurality of face regions;

a person recognizing unit configured to calculate a similarity measure on the basis of a face feature of a specific person being previously registered and the face feature extracted by the face feature extracting unit to recognize the person; and

an output apparatus which outputs a recognition result in the person recognizing unit.

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5. A face image processing apparatus comprising:

a face region detecting unit configured to detect a feature point of a face from a plurality of images imaged by a plurality of imaging units to detect a face feature region; and

15 a predicting unit configured to compare a feature of the detected face feature region with respective features of a face feature region of a person facing towards a plurality of predetermined directions to detect a face direction of the face.

20 6. A face image processing apparatus comprising:

a face region detecting unit configured to detect a plurality of face feature points each obtained from one of a plurality of images imaged by a plurality of imaging units respectively; and

25 a calculating unit configured to convert one of the

plurality of face feature points to the other of the plurality of face feature points in accordance with a spatial corresponding relationship among the plurality of images to calculate a distance between the respective face feature points.

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7. A certification apparatus, comprising:

a plurality of imaging units which pick up a plurality of images respectively;

10 a plurality of face region detecting units each configured to detect a face feature point from each of the plurality of images to detect a face region corresponding to the face feature point;

a face feature extracting unit configured to extract a face feature from images each corresponding to the face region;

15 and

a person recognizing unit configured to calculate a similarity measure between a face feature of a specific person being previously registered and the extracted face feature to recognize the person.

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8. The certification apparatus as claimed in claim 7, further comprising: a photograph judging unit configured to judge whether a photographic subject imaged by the plurality of imaging units is a photograph;

25 wherein the face feature includes a plurality of the face

features corresponding to the respective images; and

the photograph judging unit compares the plurality of face features with each other to judge whether the photographic subject is a photograph.

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9. The certification apparatus as claimed in claim 8, wherein the photograph judging unit converts an inclination of one of the plurality of face features to compare the one of the plurality of face features with the other of the plurality of face features.

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10. The certification apparatus as claimed in claim 7, further comprising: a face feature point predicting unit configured to complement one of the plurality of face feature points on the basis of the other of the plurality of face feature points when one of the plurality of face region detecting units does not detect at least a part of the corresponding face feature point.

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20 11. A certification apparatus, comprising:

a plurality of imaging units which pick up a plurality of images respectively;

a plurality of face feature point extracting units each configured to extract a face feature point from one of the plurality of images;

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an others mixture judging unit configured to judge whether
an identical person is indicated by the face feature point
extracted one of the plurality of face feature point extracting
units and by the face feature point extracted the other of the
5 plurality of face feature point extracting units; and

a person recognizing unit configured to recognize a person
according to the face feature point when the others mixture
judging unit judges that an identical person is indicated.

10 12. A face image processing method, comprising:

detecting a face feature point of a person from a plurality
of images imaged by a plurality of imaging units to detect a
face region;

15 extracting a face feature from the image of the detected
face region;

calculating a similarity measure on the basis of a face
feature of a specific person previously registered and the
extracted face feature, to recognize the person; and

outputting a recognition result.

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13. A face image processing method comprising:

detecting a face feature point from a plurality of images
imaged by a plurality of imaging units to detect a face feature
region; and

25 comparing a feature of the detected face feature region

with a feature of a face region of a person facing towards a predetermined direction to detect a face direction.

14. A face image processing method comprising:

5 detecting a plurality of face feature points each obtained from one of a plurality of images imaged by a plurality of imaging units respectively;

converting one of the plurality of face feature points to the other of the plurality of face feature points in accordance
10 with a spatial corresponding relationship among the plurality of images; and

calculating a distance between the converted face feature point and the other of the respective plurality of face feature points.

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